

state terminated in death about the middle of January, (four months after admission,) unmarked by any new symptoms.

Dissection sixteen hours after death.—Thorax. Heart natural; lungs sound, non-oedematous; small hydrothorax in both pulmo-pleural sacs.

Abdomen. Large ascites; serosity without colour, somewhat albuminous. Peritoneum, stomach, spleen, bowels, kidneys, uterus, &c. natural appearance. Liver smaller than natural, anterior surface universally carunculated; fleshy vegetations, firm substance, formed a close crop all over the convex face of the organ, having their tops covered with a pellicle of lymph, and a dense sheet of the same matter, spread from the base of each caruncle to the adjoining, constituting a thick coating of lymph every where over the front of the liver. The size of excrescences varied from the bulk of a pea to that of a filbert. The internal organism of the liver natural; gall bladder and duct in the common state.

Remark.—I am not aware of any interest proper to the special form of hepatic disease revealed in this case, other than its novelty. In numerous dissections, disclosing multiform characters of conversion and degenerescence of the liver, I have seen no former instance of carunculation; nothing like the crop of fleshy tubercles which studded the surface of the organ in the present instance. It would appear that there existed in this case greater activity of infiltration, especially ventral, than is common in dropsy from ordinary derangements of the liver.

Baltimore, February, 1830.

ART. VII. *Case of Trismus Nascentium, in which Tracheotomy was successfully performed.* By JOHN BELLINGER, M. D. of Charleston, S. C. Read to the Medical Society of South Carolina.

ON the 7th of May, I was requested by Mrs. G. one of the persons whose families had been confided to my care by Dr. DICKSON, during his late absence from our city and state, to visit her servant Sarah. She had been upwards of twenty-four hours in labour with her eighth child: being of a weak frame, and in delicate health, unequivocal and alarming symptoms of exhaustion began to appear, and the attendants demanded medical assistance. Having ascertained the presentation of the child, and the condition of the soft parts, and both being favourable to the administration of ergot, I gave her a dose of the infusion, equal to fifteen grains. Its effect was soon manifested by a revival of uterine action, which had nearly ceased. The pains were, however, feeble: in half an hour the dose was re-

peated; and in two hours the child was safely delivered. Nothing untoward occurred; both mother and child were put upon the ordinary treatment, and after the lapse of a week, my visits were discontinued.

On the 21st, I was sent for to see the infant, and found it labouring under confirmed trismus. The mother stated that on the ninth day, "the child was griped;" some domestic remedies were administered, but it becoming worse and worse, I was called in. The treatment now pursued, was to open the bowels gently, with the best castor oil; and afterwards to give a watery solution of opium, proportioned to the age of the patient. The disease progressed notwithstanding, towards a fatal termination. The following is a brief outline of what was its condition at this stage:—The child could neither suck nor swallow; the muscles of the throat were rigid; and the larynx fixed; spasms of the muscles of the neck, chest, abdomen, and back, recurred, (by experiment with a pulse-glass,) every half minute. During these paroxysms, the veins of the neck and scalp became turgid, and the eyes seemed ready to start from their sockets. Respiration was performed with much difficulty; and in inspiring, the air produced a whistling sound. The pulse was small and fluttering.

I represented to the mother and mistress of the child, that death was rapidly approaching; but proposed, with their consent, to open the wind-pipe, and thereupon explained to them, the nature and objects of the operation. They were both anxious that the child should live, and without much persuasion, agreed to my proposal. It was between ten and eleven o'clock, P. M. of the 23d, that I proceeded to operate, in the presence of Dr. H. C. GLOVER. The child being laid across the lap of an experienced and steady female assistant, with a sealpel of the smallest size, an incision, half an inch in length was made over the inferior portion of the larynx: this incision penetrated the skin. Two others having been practised in the same direction, and the trachea thereby exposed, it was fixed with the fingers of the left hand, and a thumb lancet cautiously, but resolutely plunged into it. The air from the lungs instantly rushed through the opening, bubbling up the blood, which in a few seconds was frothed out of the mouth: by both which we were assured that the operation was complete. The haemorrhage was arterial; and considering the age and

* It is worthy of remark, that this patient had in her late previous deliveries flooded largely, and on one of these occasions, her life had been despaired of, from this cause; but she lost less blood in this, than in any former accouchment. Whether this were owing to the use of the ergot, I leave to more experienced practitioners to decide: reasoning *a priori*, I should say it was.

exhaustion of the little patient, was considerable. After sponging the wound, a small cylinder of goose-quill was introduced into the opening made in the trachea; but being soon choaked with blood and mucus, was withdrawn, cleaned out, and replaced. This it was necessary to repeat several times; and in consequence of the dimness of the light by which I operated, was always attended with difficulty, and occasioned mechanical irritation of the lips of the wound. The hæmorrhage, however, soon ceased, the quill was no longer obstructed, and the child breathed through it pretty freely. A remarkable change was now observed in the most prominent symptoms: whereas, it had previously been agitated by strong and frequent spasms, and during the operation, had been very much convulsed, our patient now lay motionless, and seemingly inanimate. By our glances, Dr. G. and myself, communicated to each other, our apprehensions. On touching the wrist, however, we found the pulse regular, and both slower and stronger than before the operation. We remained with it between two and three hours, and nothing worthy of notice occurred—save that during that time, it had not more than two returns of spasm. By day-break the next morning, I was informed that the child had passed a very quiet night, and that near morning the quill had fallen out. I visited it immediately, and from respiration being performed in a free and tranquil manner, did not think it necessary to replace the quill. The other symptoms also were alleviated, and the child had eaten some thin gruel. On the next day, as was apprehended, manifest signs of laryngitis appeared. The bowels were opened with minute doses of calomel and castor oil; and then nauseating doses of antimonial wine were given, and a narrow slip of blistering plaster, applied on each side of the larynx. The inflammation yielded readily to this treatment; the child eat heartily; and in a few days was decidedly convalescent.

My attention was now called to a prolapsus ani, which the mother said she had just discovered. The intestine of a dark chocolate colour, was prolapsed to the extent of some inches, and the nates were highly inflamed. The tenesmus was great, and a double inguinal hernia was soon the consequence of the incessant straining. Notwithstanding these discouraging circumstances, the child continued to mend, and now, three weeks since the operation, is still improving. The herniæ remain, and the prolapsus, though not to so great a degree as at first, occasionally returns.

Thus far the case was communicated to the Medical Society: I now subjoin the sequel of its history.

On the 23d of June, exactly one month after the operation, I was

requested to visit the child, as it had been labouring under bowel complaint, and fever for two or three days. I did so, and prescribed for it; but it died on that very night. Permission to examine the body was obtained, and the following were the appearances presented by the parts concerned in the operation:—the external cicatrix was scarcely observable; the opening had been made in the membranous portion of the larynx, between the thyroïd and cricoid cartilages, the lower edge of the former having been divided also; the mucous membrane of the wind-pipe was of a pale colour, and a faint white line, running longitudinally, corresponded to the situation of the external cicatrix; no traces of recent inflammation were discoverable.

I have since that time, viz. on the 23d of July, operated unsuccessfully on a patient of Dr. H. C. Glover, of the history of whose case, the following is a brief outline:—The child was taken with lock-jaw on the fifth day: the mother and other female relatives would not consent to the operations being performed, until the sixth, when it was too apparent that death would supervene in the course of a few hours. They then consented, and I operated as in the case above related. No material change was observed; and the child died within four hours afterwards. My belief in the advantage of the operation was however strengthened, although the issue of the case was unfortunate. When a violent paroxysm of spasm occurred, respiration through the natural passages was suspended, and the child breathed through the quill with great force and freedom.

In conclusion, permit me to say a few words in explanation of what has been repeatedly demanded of me—the *rationale* of this practice. By observation and reading, I have been led to the conclusion, that death from hydrophobia is occasioned by asphyxia from frequent closure of the glottis. The obvious remedy of opening the wind-pipe suggested itself: and I had even attempted to institute this practice on a hydrophobic patient, before I was aware that I was treading in the footsteps of a PHYSICK and a RUSH. 'Twas while engaged in preparing proofs and arguments in support of the above opinion, that the case of trismus, first related in this letter, fell under my care. I was forcibly struck by the analogy which it exhibited on the night of the 23d of May, to the closing scene of a case of hydrophobia, just alluded to, and did not doubt that the same remedy was indicated: hence my persevering to operate, notwithstanding the deliberate opinion of the gentleman who assisted me, that the child could not survive the treatment.

This, then, is the theory I am disposed to maintain: in hydrophobia and in trismus nascentium, and perhaps in the similar tetanic affec-

tions also, death is the consequence of frequent suspensions of respiration—the patients die from the same proximate cause, as an animal which is drowned, by being alternately plunged into, and drawn out of water.*

Charleston, August 14th, 1830.

ART. VIII. *Irritation of the Spinal Cord.* By WILLIAM HITCH,
M. D. of Baltimore.

THE persevering efforts of physiologists have at length succeeded in attaining pretty extensive credit to a few general propositions in relation to the nervous system. That all the operations of the animal economy, from the minutest movements in the secretory process, to the highest effort of reason and imagination, are dependent upon the agency of nervous influence, will, we believe, soon be regarded as an established doctrine in philosophical medicine; and, consequently, the laws of the nervous system are the laws of life. The mechanical and chemical theories have left not a wreck behind—the principle of life, or nervous influence, is acknowledged to be the point to which all observations should be directed. But of the internal nature of this important agent, its properties, mode of acting, or of being acted upon, we are almost profoundly ignorant. A stimulus acts upon an organ—it performs its functions—this we see, but the part borne by this mysterious agent of life in the affair, is totally veiled from view.

The experiments of CHARLES BELL sustained by other gentlemen of his own country, and by ingenious observations and speculation of some of the continental physicians, have enabled us to make a slight advance towards a classification of the very interesting phenomena of the nervous system.. In the first stage of their generalization they speak of the cerebro-spinal and ganglionic system; the former, presiding over the intellectual operations, voluntary and respiratory motions, and all the functions of relative life; the latter, controlling organic life, nutrition, absorption, secretion, &c. To the ganglionic system are referred all phenomena of inflammation. The cerebral system is again subdivided by Mr. Bell into symmetrical and irregular; the former, consisting of thirty-one pairs of nerves with double roots, the fifth, sub-occipital, and the spinal, common to all animals, for the purposes of sensation and voluntary motion; the latter, distinguished by single roots, superadded, according to the number and

* Bichat's Researches, Part II. Art. VI. Sect. II.